

# PRODUCT PROFILE

## MP-Series™ Integrated Linear Stages

### Simplified and Precise Linear Positioning

#### Advantages

- Full setup and programming support through RSLogix 5000 software makes set up and commissioning fast and easy
- Integrated linear stage-type actuator eliminates separate adapters, belts, gears, as well as assembly labor.
- Direct drive linear motor versions provide very high speeds (up to 5 meters/second) and reduced settling time for increased throughput. They also have very long operational life since there are fewer moving parts.
- Ballscrew driven versions provide high forces with absolute multi-turn feedback to eliminate time-consuming homing routines. Holding brakes are optional.
- 150 mm, 200 mm, and 250 mm frame sizes (based widths) available for 230 and 460-Volt operation with stroke lengths up to 2 meters
- Home-to-hard-stop operation with software over-travel limits eliminates the need for cumbersome external limit switches.

*MP-Series™ Integrated Linear Stages simplify your machine design and are ideal for applications that require loads to be supported and moved with precise linear positioning and velocity control.*



#### Overview

The design, building and integration of linear stage actuators for use in automation machinery can be complex, time consuming and expensive. But with the MP-Series™ Integrated Linear Stages, you can dramatically reduce the cost and work required to implement linear stages in your machine.

Tight integration with Allen-Bradley Logix control systems makes the MP-Series™ Integrated Linear Stages easy to incorporate - whether your choice is ballscrew or direct drive linear motor technology. You can now select linear stage actuators based on the performance required by the application without concern about the internal construction of the linear stage or how it will interface with the control system. To further simplify your selection, the stages feature complete support in Allen-Bradley Motion Analyzer (4.4 or greater) servo system software for optimized selection and configuration.

Because the MP-Series™ Integrated Linear Stages are part of the time-proven MP-Series™ servo motor and actuator family, they have the reliability you have come to expect from MP-Series™ products and are compatible with the Kinetix® 2000, Kinetix 6000 and Ultra™3000 servo drives, as well as all MP-Series™ cables and accessories.

# MP-SERIES INTEGRATED LINEAR STAGES PERFORMANCE SPECIFICATIONS

| Catalog Number<br>MPAS-               | Screw<br>Lead<br>mm (in.) | Max Velocity <sup>2</sup><br>mm/sec (in./sec) | Cont Stall<br>Force N (lbs) | Peak Stall<br>Force N (lbs) | Drive<br>Mechanism and<br>Feedback<br>Type              | Stroke<br>Length <sup>1</sup><br>mm (in.) | Bi-Directional<br>Repeatability <sup>3</sup><br>µm (in.) | Accuracy <sup>3</sup>                         |
|---------------------------------------|---------------------------|---|-----------------------------|-----------------------------|---|---|--|---|
| <b>150 mm Frame Size (Base Width)</b> |                           |   |                             |                             |   |   |  |   |
| A6xxx1-V05SxA                         | 5 (0.2)                   | 200 (7.9)                                     | 521 (117)                   | 1212 (273)                  | Ballscrew with<br>absolute multi-turn<br>rotary encoder | 120-660<br>(4.7 - 26.0)                   | ± 60µm<br>(0.0024)                                       | 50µm<br>+ 167µm/m<br>(0.002 in + 0.002 in/ft) |
| A6xxx2-V20SxA                         | 20 (0.8)                  | 1124 (44.3)                                   | 462 (104)                   | 968 (218)                   |   |   |  |   |
| B6xxx1-V05SxA                         | 5 (0.2)                   | 200 (7.9)                                     | 521 (117)                   | 1212 (273)                  |   |   |  |   |
| B6xxx2-V20SxA                         | 20 (0.8)                  | 1124 (44.3)                                   | 462 (104)                   | 968 (218)                   |   |   |  |   |
| A6xxxB-ALMO2C<br>(No Cover)           | N/A                       | 5000 (196.9)                                  | 105 (24)                    | 359 (81)                    | Linear motor<br>with incremental<br>linear encoder      | 120-1140<br>(4.7 - 44.9)                  | ±15µm<br>(0.0006)  | 100µm<br>+ 20µm/m<br>(0.004 in + 0.002 in/ft) |
| A6xxxB-ALMS2C<br>(Covered)            |                           |   | 83 (19)                     | 312 (70)                    |   |   |  |   |
| <b>200 mm Frame Size (Base Width)</b> |                           |   |                             |                             |   |   |  |   |
| A8xxx1-V05SxA                         | 5 (0.2)                   | 200 (7.9)                                     | 521 (117)                   | 1212 (273)                  | Ballscrew with<br>absolute multi-turn<br>rotary encoder | 120-1020<br>(4.7 - 40.2)                  | ± 60µm<br>(0.0024)                                       | 50µm<br>+ 167µm/m<br>(0.002 in + 0.002 in/ft) |
| A8xxx2-V20SxA                         | 20 (0.8)                  | 1124 (44.3)                                   | 462 (104)                   | 968 (218)                   |   |   |  |   |
| B8xxx1-V05SxA                         | 5 (0.2)                   | 200 (7.9)                                     | 521 (117)                   | 1212 (273)                  |   |   |  |   |
| B8xxx2-V20SxA                         | 20 (0.8)                  | 1124 (44.3)                                   | 462 (104)                   | 968 (218)                   |   |   |  |   |
| A8xxxE-ALMO2C<br>(No Cover)           | N/A                       | 5000 (196.9)                                  | 189 (43)                    | 456 (103)                   | Linear motor<br>with incremental<br>linear encoder      | 140-1940<br>(5.5 - 76.4)                  | ±15µm<br>(0.0006)  | 100µm +<br>20µm/m<br>(0.004 in + 0.002 in/ft) |
| A8xxxE-ALMS2C<br>(Covered)            |                           |   | 159 (36)                    | 399 (90)                    |   |   |  |   |
| B8xxxF-ALMO2C<br>(No Cover)           |                           |   | 189 (43)                    | 456 (103)                   |   |   |  |   |
| B8xxxF-ALMS2C<br>(Covered)            |                           |   | 159 (36)                    | 399 (90)                    |   |   |  |   |
| <b>250 mm Frame Size (Base Width)</b> |                           |   |                             |                             |   |   |  |   |
| A9xxx1-V05SxA                         | 5 (0.2)                   | 200 (7.9)                                     | 521 (117)                   | 1212 (273)                  | Ballscrew with<br>absolute multi-turn<br>rotary encoder | 120-1020<br>(4.7 - 40.2)                  | ± 60µm<br>(0.0024)                                       | 50µm<br>+ 167µm/m<br>(0.002 in + 0.002 in/ft) |
| A9xxx2-V20SxA                         | 20 (0.8)                  | 1124 (44.3)                                   | 462 (104)                   | 968 (218)                   |   |   |  |   |
| B9xxx1-V05SxA                         | 5 (0.2)                   | 200 (7.9)                                     | 521 (117)                   | 1212 (273)                  |   |   |  |   |
| B9xxx2-V20SxA                         | 20 (0.8)                  | 1124 (44.3)                                   | 462 (104)                   | 968 (218)                   |   |   |  |   |
| A9xxxK-ALMO2C<br>(No Cover)           | N/A                       | 5000 (196.9)                                  | 285 (64)                    | 680 (153)                   | Linear motor<br>with incremental<br>linear encoder      | 140-1940<br>(5.5 - 76.4)                  | ±15µm<br>(0.0006)  | 100µm +<br>20µm/m<br>(0.004 in + 0.002 in/ft) |
| A9xxxK-ALMS2C<br>(Covered)            |                           |   | 245 (55)                    | 601 (135)                   |   |   |  |   |
| B9xxxL-ALMO2C<br>(No Cover)           |                           |   | 285 (64)                    | 680 (153)                   |   |   |  |   |
| B9xxxL-ALMS2C<br>(Covered)            |                           |   | 245 (55)                    | 601 (135)                   |   |   |  |   |

<sup>1</sup> See Kinetix Selection Guide for specific stroke lengths available

<sup>2</sup> Maximum speed for ballscrew driven stages is reduced for stroke lengths greater than 780 mm. See Kinetix Selection Guide for details.

<sup>3</sup> 1µm = 1 micron = 0.001 millimeter

**For more information refer to our web site: [www.ab.com/motion](http://www.ab.com/motion), or the Kinetix selection guide, GMC-SG001x**

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**[www.rockwellautomation.com](http://www.rockwellautomation.com)**

## Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444

Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640

Asia Pacific: Rockwell Automation, Level 14, Corc F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846